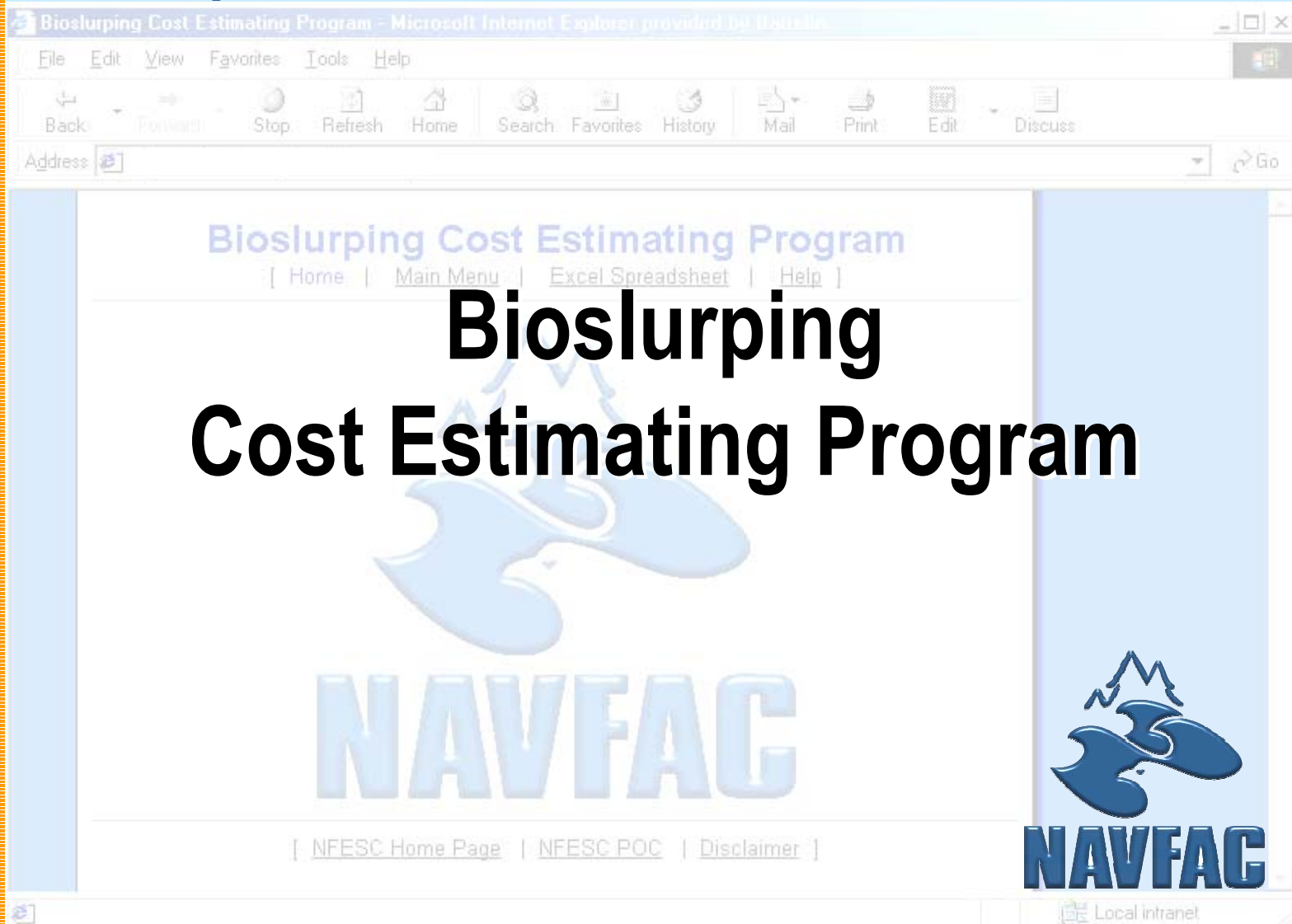


# RITS Special Edition

## Computer and Web-Based T2 Tools





# Introduction

## ■ What's the Purpose?

- ◆ Detailed cost estimating for bioslurping technology
- ◆ Independent government estimates (IGEs)

## ■ Who Developed It?

- ◆ Navy contractor (Battelle)

## ■ What's Included?

- ◆ Site-specific cost estimates for system design, pilot-testing, and full-scale construction and O&M
- ◆ General and detailed cost estimating wizards
- ◆ Help information

# Structure

- Home
- Main
  - ◆ Estimate Costs (General Parameters, Cost Estimating Wizard, Modify Labor Rates, Modify Sampling)
  - ◆ View Costs (Summary and Detail Level)
  - ◆ Other Features (Reset Defaults and View Estimated Parameters)
- Excel Spreadsheet Version (Download)
- Help



# Web Address and POCs

- What is the Web Address?

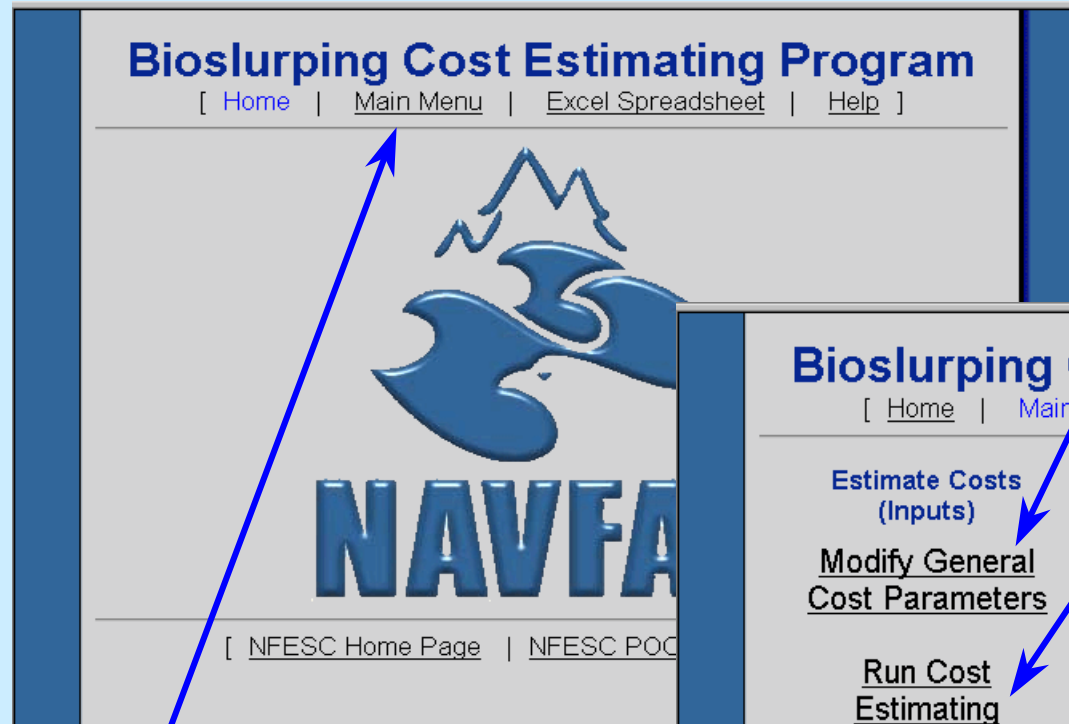
[http://enviro.nfesc.navy.mil/erb/restoration/technologies/sel\\_tools/main.htm](http://enviro.nfesc.navy.mil/erb/restoration/technologies/sel_tools/main.htm)

- Who Can I Contact For Additional Information?

- ◆ Navy POC: (805) 982-6586

- ◆ Battelle POC: (614) 424-7723

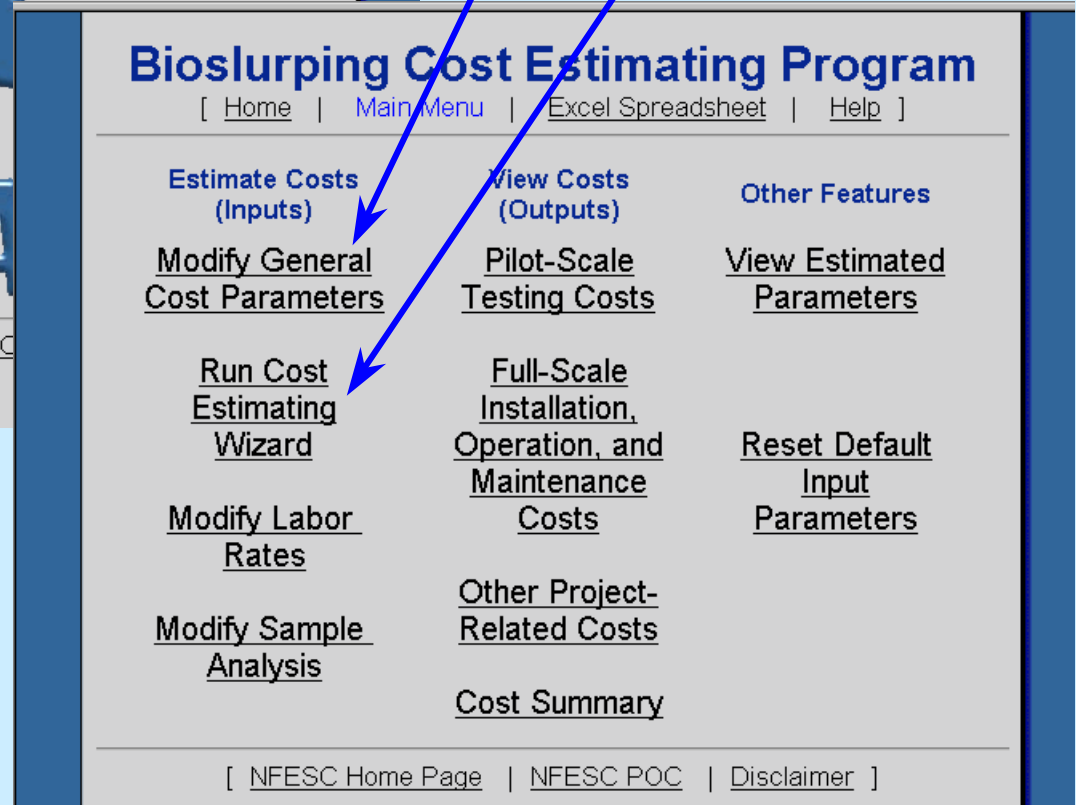
# Getting Started



**Click here to  
enter the main  
program menu**

**Click here to quickly  
estimate costs**

**Click here for a more  
detailed cost estimate**



# Cost Estimating Wizard Parameter Selection

**Cost Estimating Wizard - Step 1 Pilot-Scale Testing**

☐ Do not estimate cost for pilot-scale testing (skip step 1)

Well and Monitoring Point Installation

Number of extraction wells to be installed

Number of soil-gas monitoring point locations

Depth to groundwater (ft below ground surface)

Type of contaminants

Pilot-Scale Testing

Field trailer

Off-gas treatment

Water treatment

☐ Filter ☒ Carbon and clay adsorption

☐ Air stripping ☐ Dissolved air flotation

Water disposal

**Enter required parameters  
specific to your site**

**Cost Estimating Wizard - Step 2 Full-Scale System**

☐ Do not estimate cost for full-scale system (skip Step 2)

Full-Scale Installation

Type of contaminants

Area of LNAPL plume (acres)

Estimated radius of influence (ft)

Depth to groundwater (ft below ground surface)

Full-Scale Operation

Duration (months)

Off-gas treatment

Water Treatment

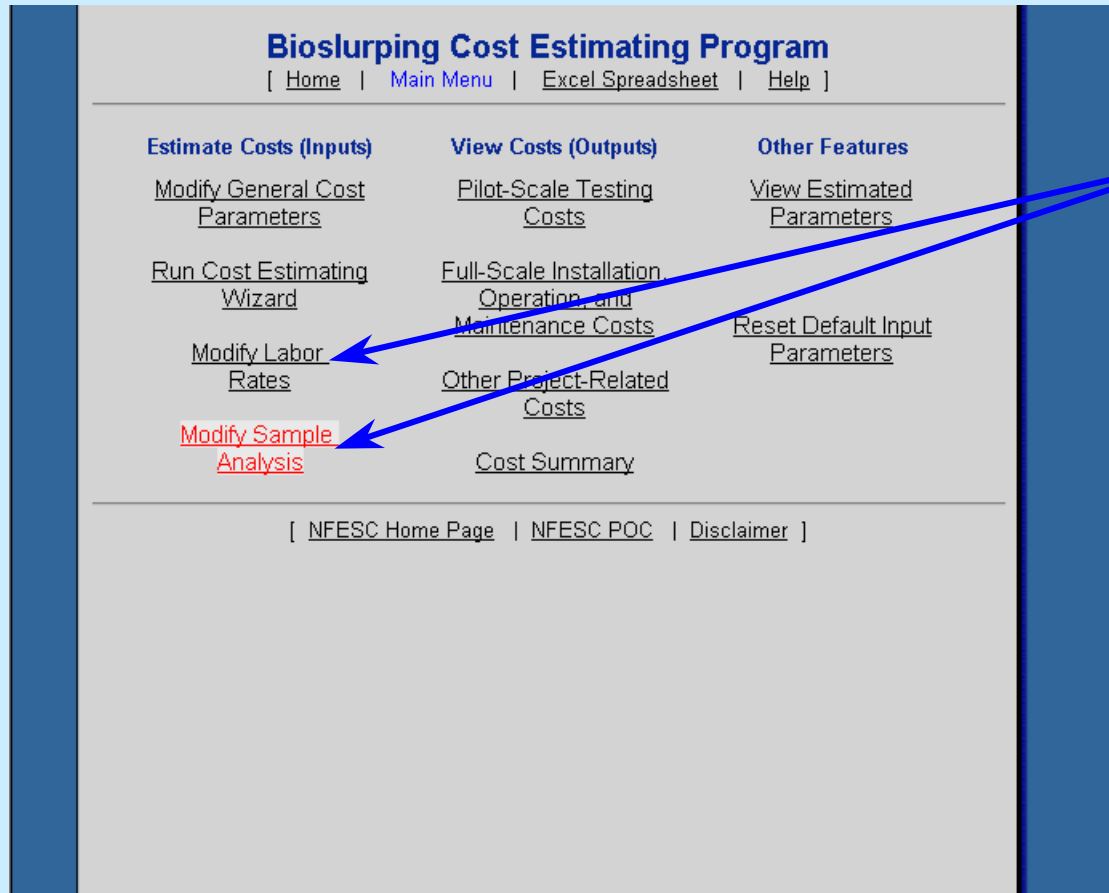
☐ Filter ☐ Activated carbon adsorption

☐ Air stripping ☐ Dissolved air flotation

Water Disposal

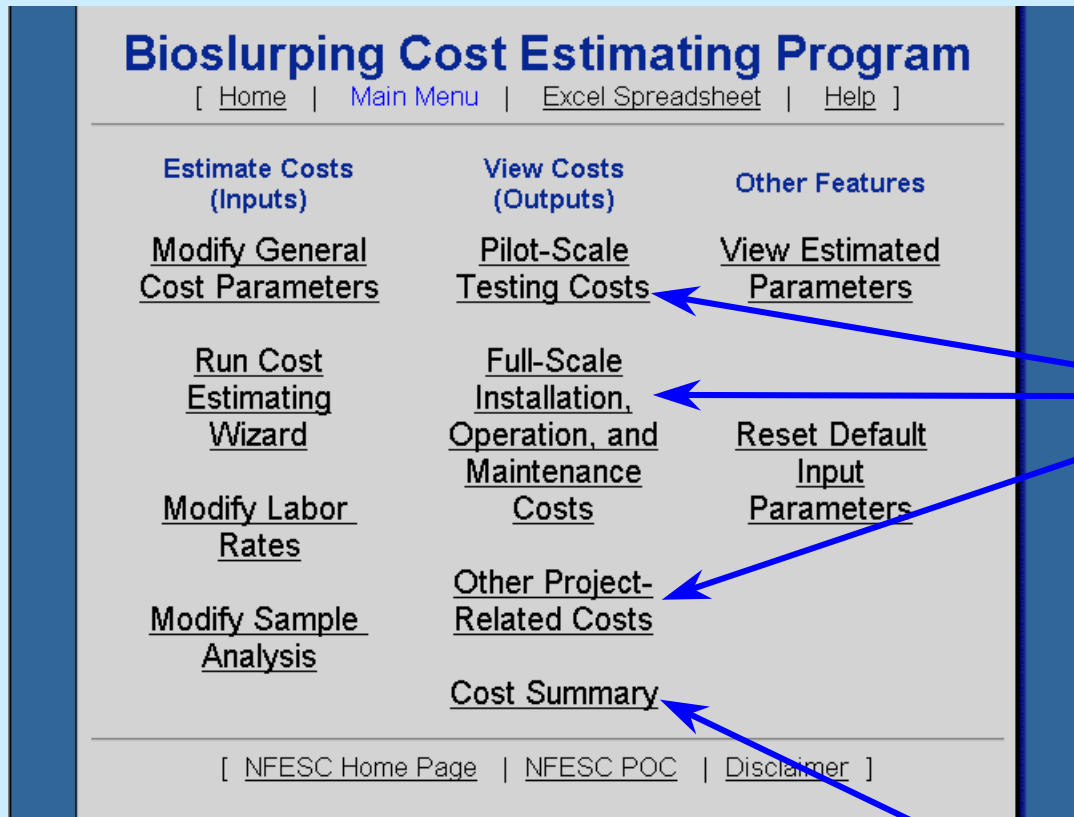


# Modify Cost Parameters



**Use these features to adjust default cost parameters...by using input values specific to your site**

# View Results



The screenshot shows the 'Bioslurping Cost Estimating Program' interface. It has a top navigation bar with links: [ Home | Main Menu | Excel Spreadsheet | Help ]. The main content area is divided into three columns: 'Estimate Costs (Inputs)', 'View Costs (Outputs)', and 'Other Features'. The 'Estimate Costs (Inputs)' column contains links for 'Modify General Cost Parameters', 'Run Cost Estimating Wizard', 'Modify Labor Rates', and 'Modify Sample Analysis'. The 'View Costs (Outputs)' column contains links for 'Pilot-Scale Testing Costs', 'Full-Scale Installation, Operation, and Maintenance Costs', 'Other Project-Related Costs', and 'Cost Summary'. The 'Other Features' column contains links for 'View Estimated Parameters' and 'Reset Default Input Parameters'. Blue arrows point from the 'View Costs (Outputs)' column to external text boxes on the right. One arrow points from 'Pilot-Scale Testing Costs' to 'Click here to view specific itemized costs'. Another arrow points from 'Full-Scale Installation, Operation, and Maintenance Costs' to the same text box. A third arrow points from 'Cost Summary' to 'Click here to view overall cost summary'. A bottom navigation bar contains links: [ NFESC Home Page | NFESC POC | Disclaimer ].

**Bioslurping Cost Estimating Program**

[ Home | Main Menu | Excel Spreadsheet | Help ]

Estimate Costs (Inputs)	View Costs (Outputs)	Other Features
<a href="#">Modify General Cost Parameters</a>	<a href="#">Pilot-Scale Testing Costs</a>	<a href="#">View Estimated Parameters</a>
<a href="#">Run Cost Estimating Wizard</a>	<a href="#">Full-Scale Installation, Operation, and Maintenance Costs</a>	<a href="#">Reset Default Input Parameters</a>
<a href="#">Modify Labor Rates</a>	<a href="#">Other Project-Related Costs</a>	
<a href="#">Modify Sample Analysis</a>	<a href="#">Cost Summary</a>	

[ NFESC Home Page | NFESC POC | Disclaimer ]































**Click here to view specific itemized costs**

**Click here to view overall cost summary**




# View Results (Cont.)

## Cost Summary

Category	Sub-Category	Cost	Bar Chart
Pilot-Scale Testing	Well Installation	\$20,364.77	
	Soil Sampling Analysis	\$13,468.00	
	Well Installation Travel Expenses	\$1,200.00	
	Mobile Trailer	\$7,500.00	
	Pilot-Scale Testing Installation	\$4,435.98	
	Air and Water Sampling	\$3,057.56	
	Pilot-Scale Off-Gas Treatment	\$1,350.00	
	Water Treatment	\$3,682.00	
	Water Disposal	\$0.00	
	Labor	\$14,700.00	
	Travel Expenses	\$3,800.00	
	<b>Subtotal</b>	<b>\$73,558.31</b>	
Full-Scale Installation, Operation, and Maintenance Costs	Well Installation	\$56,038.13	
	Soil Sampling Analysis	\$19,684.00	
	Well Installation Travel Expenses	\$1,800.00	
	Extraction Manifold	\$7,797.76	
	Procurement and Installation	\$67,093.16	
	Off-Gas Treatment Installation	\$0.00	
	Water Treatment Installation	\$0.00	
	Water Disposal Installation	\$0.00	
	Installation Labor	\$10,500.00	
	Installation Travel Expenses	\$3,400.00	
	Operation and Maintenance (O&M)	\$31,159.36	
	Off-Gas Treatment O&M	\$0.00	
	Water Treatment O&M	\$0.00	
	Water Disposal O&M	\$0.00	
	O&M Labor	\$40,640.00	
	O&M Travel Expenses	\$7,600.00	
	<b>Subtotal</b>	<b>\$245,712.41</b>	
Other Project-Related Costs	Documentation	\$93,596.00	
	Site Closure	\$34,128.00	
	Project Management	\$23,580.00	
	<b>Subtotal</b>	<b>\$151,304.00</b>	
<b>Total</b>		<b>\$470,574.72</b>	

Example view of overall cost summary

# View Results (Cont.)

BSCE Main Menu  Download Excel Spreadsheet (Right click and select "Save Target As" to download)

**Full-Scale Installation, Operation and Maintenance Costs**

Category	Sub-Category	Description	Unit	Unit Cost	Quantity	Total
Well Installation	General Costs	Mobilize/Demobilize Drilling Rig and Crew	LS	\$1,500.00	1	\$1,500.00
		Move Rig/Equipment Around Site	EA	\$321.75	19	\$6,113.25
		Well Permits	EA	\$200.00	19	\$3,800.00
		Well Development	HR	\$110.00	30	\$3,300.00
		Well Development Equipment Rental	WK	\$502.41	1	\$502.41
		OVA Rental, Per Day	DAY	\$122.80	5	\$614.00
		Decontaminate Equipment	EA	\$139.54	19	\$2,651.26
		Drilling Cuttings and Development Water - 55 Gal Drum	EA	\$52.62	45	\$2,367.90
		Drill Cuttings Disposal - 55 Gal Drum	EA	\$88.00	38	\$3,344.00
		Development Water Disposal - 55 Gal Drum	EA	\$88.00	7	\$616.00
		<b>Subtotal</b>				<b>\$24,808.82</b>
	Well Materials	4" PVC, Schedule 40, Well Casing	LF	\$9.84	180	\$1,771.20
		4" PVC, Schedule 40, Well Screen	LF	\$21.45	75	\$1,608.75
		H Stem 11" OD Borehole	LF	\$30.26	255	\$7,716.30
		4" Screen, Filter Pack	LF	\$19.52	90	\$1,756.80
		4" Well, Bentonite Seal	EA	\$82.80	15	\$1,242.00
		4" Well, Portland Cement Grout	LF	\$1.65	248	\$409.20
		Concrete Surface Pad, 4' x 4' x 4"	EA	\$154.18	15	\$2,312.70
		12" x 7.5" Locking Manhole Cover, Watertight	EA	\$138.83	15	\$2,082.45
		<b>Subtotal</b>				<b>\$18,899.40</b>
	Monitoring Point Materials	H Stem 11" OD Borehole	LF	\$30.26	48	\$1,452.48
		Silica Sand (Bag Assumed to be 3/4 ft <sup>3</sup> )	EA	\$11.86	4	\$47.44
		Bentonite Chips (Bag Assumed to be 3/4 ft <sup>3</sup> )	EA	\$10.16	4	\$40.64
		Mini Male Thermocouple Plug	EA	\$3.18	16	\$50.88
		Type K Thermocouple Wire (125 ft Roll)	EA	\$62.83	4	\$251.32
		1/4 in. Nylon Tubing (50 ft Roll)	EA	\$19.25	2	\$38.50
		Quick-Connect 1/4 in. Fittings	EA	\$17.11	16	\$273.76
		Gravel for Suction Screens (50 lb Bag)	EA	\$20.00	1	\$20.00
		Suction Strainer	EA	\$6.72	16	\$107.52
		Concrete Surface Pad, 4' x 4' x 4"	EA	\$154.18	4	\$616.72
	Soil Sampling	12" x 7.5" Locking Manhole Cover, Watertight	EA	\$138.83	4	\$555.32
		<b>Subtotal</b>				<b>\$3,454.58</b>
		Split Spoon Sample, 2" x 24", during Drilling	EA	\$30.71	38	\$1,166.98
		Standby for Drilling (during Sampling)	EA	\$170.21	19	\$3,233.99

Example  
view of  
itemized  
costs